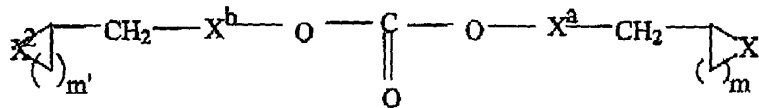


AMENDMENT TO THE CLAIMS:

31. (Previously Added) A thermosetting resin composition, reaction products of which are controllably degradable, said composition comprising:

(a) a curable resin component represented by the following structure:



wherein X^1 and X^2 may be the same or different and represent oxygen and sulfur; X^a and X^b may be the same or different, may or may not be present, and represent alkyl, alkenyl, and aryl of one to about twenty carbon atoms, or one or more aromatic ring(s) or ring system(s), with or without interruption or substitution by one or more heteroatoms; and m and m' represent integers within the range of 1 to 3; and

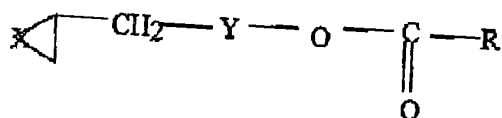
(b) a curing agent component.

32. (Presently Amended) A thermosetting resin composition, reaction products of which are controllably degradable, said composition comprising:

(a) a curable resin component selected from the group consisting of an epoxy resin, at least a portion of which comprising an epoxy resin having at least one alkylene oxide residue positioned adjacent at least one terminal epoxy group;

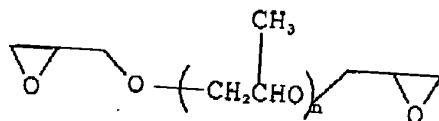
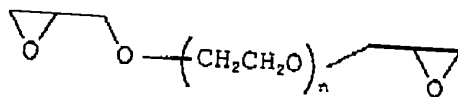
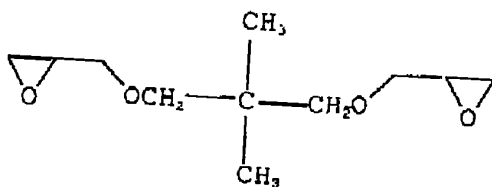
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and the combination of an epoxy resin and a coreactant diluent represented by the structure:



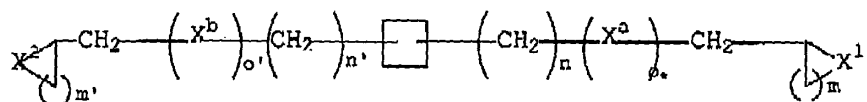
wherein X represents the heteroatoms, oxygen or sulfur; Y may or may not be present, and when present represents alkylene, alkenylene, and arylene; and R represents alkyl, alkenyl, and aryl; and combinations thereof; and

(b) a curing agent component[, wherein the epoxy resin component includes



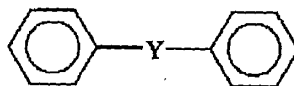
34. (Previously Added) The composition of Claim 31, further comprising an inorganic filler component.

35. (Previously Added; Cancelled) The composition of Claim 31, wherein the curable resin component further comprises a curable resin represented by the following structure:

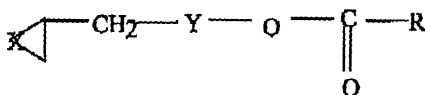


wherein the box represents one or more aromatic ring(s) or ring system(s), with or without interruption or substitution by one or more heteroatoms; X^1 , X^2 , X^a , and X^b may be the same or different and represent oxygen and sulfur; m and m^1 represent integers within the range of 1 to 3; n and n^1 represent integers within the range of 0 to 8; and o and o^1 represent integers within the range of 1 to 3.

36. (Previously Added; Cancelled) The composition of Claim 35, wherein the box is represented by



wherein Y may or may not be present, and where present a member selected from the group consisting of carbon, oxygen, sulfur, and phenylene.



wherein X represents the heteroatoms, oxygen or sulfur; Y may or may not be present, and when present represents a linkage selected from the group consisting of linear, branched, cyclo- or bicyclo-alkylene or alkenylene of from one or two, respectively, to about twenty carbon atoms, and arylene of one or more aromatic ring(s) or ring system(s) of from about six to about twenty carbon atoms.

40. (Previously Added) The composition of Claim 32, wherein the coreactant diluent is glycidyl neodecanoate.

41. (Previously Added; Cancelled) The composition of Claim 31, wherein the curing agent component is a member selected from the group consisting of amine compounds, amide compounds, imidazole compounds, and derivatives and combinations thereof.

42. (Previously Added; Cancelled) The composition of Claim 41, wherein the amine compounds are selected from the group consisting of aliphatic polyamines, aromatic polyamines, alicyclic polyamines and combinations thereof.

43. (Previously Added; Cancelled) The composition of Claim 41, wherein the amine compounds are selected from the group consisting of diethylenetriamine, triethylenetetramine,

diethylaminopropylamine, xylenediamine, diaminodiphenylamine, isophoronediamine, menthenediamine and combinations thereof.

44. (Previously Added; Cancelled) The composition of Claim 41, wherein the amide compounds include cyano-functionalized amides.

45. (Previously Added; Cancelled) The composition of Claim 41, wherein the imidazole compounds are selected from imidazole, isoimidazole, alkyl-substituted imidazoles, and combinations thereof.

46. (Previously Added; Cancelled) The composition of Claim 41, wherein the imidazole compounds are selected from 2-methyl imidazole, 2-ethyl-4-methylimidazole, 2,4-dimethylimidazole, butylimidazole, 2-heptadecenyl-4-methylimidazole, 2-methylimidazole, 2-undecenylimidazole, 1-vinyl-2-methylimidazole, 2-n-heptadecylimidazole, 2-undecylimidazole, 1-benzyl-2-methylimidazole, 1-propyl-2-methylimidazole, 1-cyanoethyl-2-methylimidazole, 1-cyanoethyl-2-ethyl-4-methylimidazole, 1-cyanoethyl-2-undecylimidazole, 1-cyanoethyl-2-phenylimidazole, 1-guanaminoethyl-2-methylimidazole and addition products of an imidazole and trimellitic acid, 2-n-heptadecyl-4-methylimidazole, aryl-substituted imidazoles, phenylimidazole, benzylimidazole, 2-methyl-4,5-diphenylimidazole, 2,3,5-triphenylimidazole, 2-styrylimidazole, 1-(dodecyl benzyl)-2-methylimidazole, 2-(2-hydroxyl-4-t-

butylphenyl)-4,5-diphenylimidazole, 2-(2-methoxyphenyl)-4,5-diphenylimidazole, 2-(3-hydroxyphenyl)-4,5-diphenylimidazole, 2-(p-dimethylaminophenyl)-4,5-diphenylimidazole, 2-(2-hydroxyphenyl)-4,5-diphenylimidazole, di(4,5-diphenyl-2-imidazole)-benzene-1,4, 2-naphthyl-4,5-diphenylimidazole, 1-benzyl-2-methylimidazole, 2-p-methoxystyrylimidazole, and combinations thereof.

47. (Previously Added; Cancelled) The composition of Claim 41, wherein the modified amine compounds include epoxy amine additives formed by the addition of an amine compound to an epoxy compound.

48. (Previously Added; Cancelled) The composition of Claim 41, wherein the modified amine compounds include "ANCAMINE" 2337S.

49. (Previously Added; Cancelled) The composition of Claim 41, wherein the modified amine compounds are novolac-type resin modified through reaction with aliphatic amines.

50. (Previously Added; Cancelled) The composition of Claim 41, wherein the modified imidazole compounds include imidazole adducts formed by the addition of an imidazole compound to an epoxy compound.

51. (Previously Added) The composition of Claim 33, wherein the anhydride component is a member selected from the group consisting of hexahydrophthalic anhydride, methyl

hexahydrophthalic anhydride, 5-(2,5-dioxotetrahydro)-3-methyl-3-cyclohexene-1,2-dicarboxylic anhydride, and combinations thereof.

52. (Previously Added) The composition of Claim 34, wherein the inorganic filler component is a member selected from the group consisting of silica, aluminum oxide, silicon nitride, aluminum nitride, silica-coated aluminum nitride, boron nitride and combinations thereof.

53. (Previously Added) The composition of Claim 31, capable of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected, or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, reaction products of which are capable of softening and losing adhesiveness.

54. (Previously Added) Reaction products of compositions in accordance with Claim 31.

55. (Previously Added; Cancelled) An electronic device comprising a semiconductor device and a circuit board to which said semiconductor device is electrically connected or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, assembled using a thermosetting resin composition according to Claim 31 as an

underfill sealant between the semiconductor device and the circuit board or the semiconductor chip and the circuit board, respectively, wherein reaction products of the composition are capable of softening and losing their adhesiveness under exposure to temperature conditions in excess of those used to cure the composition.

56. (Previously Added; Cancelled) A method of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, the steps of which comprise:

(a) dispensing into the underfilling between the semiconductor device and the circuit board or the semiconductor chip and the circuit board a composition in accordance with Claim 31; and

(b) exposing the composition as so dispensed to conditions appropriate to cause the composition to form a reaction product.

57. (Previously Added; Cancelled) A method of reworking a reaction product of a composition in accordance with Claim 31, a step of which comprises:

(a) exposing the reaction product to conditions appropriate to cause the reaction product to soften and lose adhesiveness.

58. (Previously Added; Cancelled) The method according to Claim 57, further comprising the steps of:

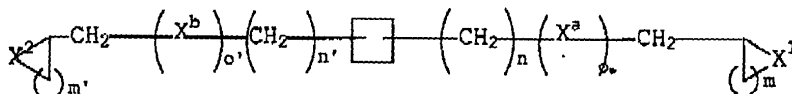
(b) removing the semiconductor chip or semiconductor device from the circuit board; and

(c) optionally, cleaning the surface of the circuit board to remove any cured reaction product that remains.

59. (Previously Added) The composition of Claim 32, further comprising an anhydride component.

60. (Previously Added) The composition of Claim 32, further comprising an inorganic filler component.

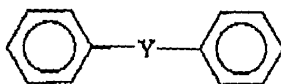
61. (Previously Added) The composition of Claim 32, wherein the curable resin component further comprises a curable resin represented by the following structure:



wherein the box represents one or more aromatic ring(s) or ring system(s), with or without interruption or substitution by one or more heteroatoms; X^1 , X^2 , X^a , and X^b may be the same or different and represent oxygen and sulfur; m and m^1 represent integers

within the range of 1 to 3; n and n¹ represent integers within the range of 0 to 8; and o and o¹ represent integers within the range of 1 to 3.

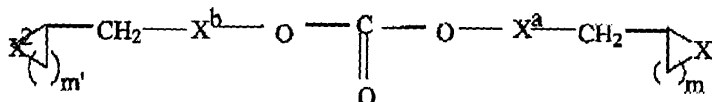
62. (Previously Added) The composition of Claim 61, wherein the box is represented by



wherein Y may or may not be present, and where present a member selected from the group consisting of carbon, oxygen, sulfur, and phenylene.

63. (Previously Added) The composition of Claim 61, wherein the box represents a structural linkage selected from the group consisting of individual aromatic rings, oligomeric systems and aromatic ring systems having multiple aromatic units joined in fused ring systems, joined in bi-aryl ring systems, bis-aryl ring systems, or cycloaliphatic-aromatic hybrid ring systems.

64. (Previously Added) The composition of Claim 32, wherein the curable resin component further comprises a curable resin represented by the following structure:



wherein X^1 and X^2 may be the same or different and represent oxygen and sulfur; X^a and X^b may be the same or different, may or may not be present, and represent alkyl, alkenyl, and aryl of one to about twenty carbon atoms, or one or more aromatic ring(s) or ring system(s), with or without interruption or substitution by one or more heteroatoms; and m and m^1 represent integers within the range of 1 to 3.

65. (Previously Added) The composition of Claim 32, wherein the curing agent component is a member selected from the group consisting of amine compounds, amide compounds, imidazole compounds, and derivatives and combinations thereof.

66. (Previously Added) The composition of Claim 65, wherein the amine compounds are selected from the group consisting of aliphatic polyamines, aromatic polyamines, alicyclic polyamines and combinations thereof.

67. (Previously Added) The composition of Claim 65, wherein the amine compounds are selected from the group consisting of diethylenetriamine, triethylenetetramine, diethylaminopropylamine, xylenediamine, diaminodiphenylamine, isophoronediamine, menthenediamine and combinations thereof.

68. (Previously Added) The composition of Claim 65, wherein the amide compounds include cyano-functionalized amides.

69. (Previously Added) The composition of Claim 65, wherein the imidazole compounds are selected from imidazole, isoimidazole, alkyl-substituted imidazoles, and combinations thereof.

70. (Presently Amended) The composition of Claim 65, wherein the imidazole compounds are selected from 2-methylimidazole, 2-ethyl-4-methylimidazole, 2,4-dimethylimidazole, butylimidazole, 2-heptadecenyl-4-methylimidazole, [2-methylimidazole,] 2-undecenylimidazole, 1-vinyl-2-methylimidazole, 2-n-heptadecylimidazole, 2-undecylimidazole, 1-benzyl-2-methylimidazole, 1-propyl-2-methylimidazole, 1-cyanoethyl-2-methylimidazole, 1-cyanoethyl-2-ethyl-4-methylimidazole, 1-cyanoethyl-2-undecylimidazole, 1-cyanoethyl-2-phenylimidazole, 1-guanaminoethyl-2-methylimidazole and addition products of an imidazole and trimellitic acid, 2-n-heptadecyl-4-methylimidazole, aryl-substituted imidazoles, phenylimidazole, benzylimidazole, 2-methyl-4,5-diphenylimidazole, 2,3,5-triphenylimidazole, 2-styrylimidazole, 1-(dodecyl benzyl)-2-methylimidazole, 2-(2-hydroxyl-4-t-butylphenyl)-4,5-diphenylimidazole, 2-(2-methoxyphenyl)-4,5-diphenylimidazole, 2-(3-hydroxyphenyl)-4,5-diphenylimidazole, 2-(p-dimethylaminophenyl)-4,5-diphenylimidazole, 2-(2-hydroxyphenyl)-4,5-diphenylimidazole, di(4,5-diphenyl-2-imidazole)-benzene-1,4, 2-naphthyl-4,5-diphenylimidazole, 1-

benzyl-2-methylimidazole, 2-p-methoxystyrylimidazole, and combinations thereof.

71. (Previously Added) The composition of Claim 65, wherein the modified amine compounds include epoxy amine additives formed by the addition of an amine compound to an epoxy compound.

72. (Previously Added) The composition of Claim 65, wherein the modified amine compounds include "ANCAMINE" 2337S.

73. (Previously Added) The composition of Claim 65, wherein the modified amine compounds are novolac-type resin modified through reaction with aliphatic amines.

74. (Previously Added) The composition of Claim 65, wherein the modified imidazole compounds include imidazole adducts formed by the addition of an imidazole compound to an epoxy compound.

75. (Previously Added) The composition of Claim 32, capable of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected, or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, reaction products of which are capable of softening and losing adhesiveness.

76. (Previously Added) Reaction products of compositions in accordance with Claim 32.

77. (Previously Added) An electronic device comprising a semiconductor device and a circuit board to which said semiconductor device is electrically connected or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, assembled using a thermosetting resin composition according to Claim 32 as an underfill sealant between the semiconductor device and the circuit board or the semiconductor chip and the circuit board, respectively, wherein reaction products of the composition are capable of softening and losing their adhesiveness under exposure to temperature conditions in excess of those used to cure the composition.

78. (Previously Added) A method of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, the steps of which comprise:

(a) dispensing into the underfilling between the semiconductor device and the circuit board or the semiconductor

chip and the circuit board a composition in accordance with claim 32; and

(b) exposing the composition as so dispensed to conditions appropriate to cause the composition to form a reaction product.

79. (Previously Added; Cancelled) A method of reworking a reaction product of a composition in accordance with Claim 32, a step of which comprises:

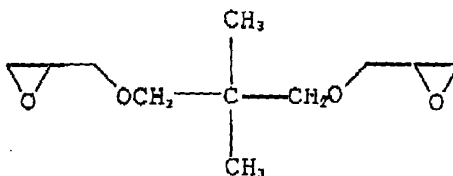
(a) exposing the reaction product to conditions appropriate to cause the reaction product to soften and lose adhesiveness.

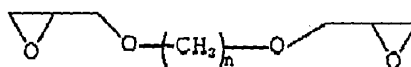
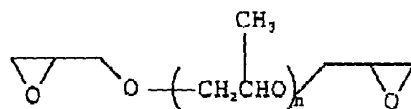
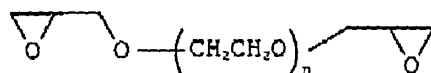
80. (Previously Added; Cancelled) The method according to Claim 79, further comprising the steps of:

(b) removing the semiconductor chip or semiconductor device from the circuit board; and

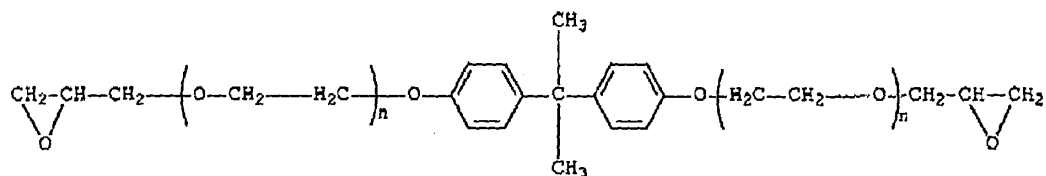
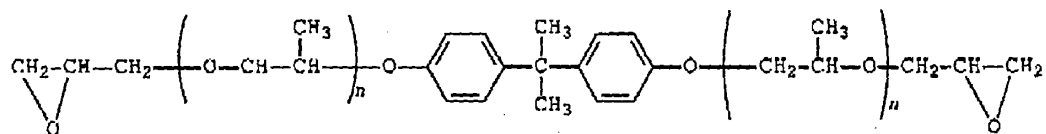
(c) optionally, cleaning the surface of the circuit board to remove any cured reaction product that remains.

81. (New) The composition of Claim 32, wherein the epoxy resin component includes

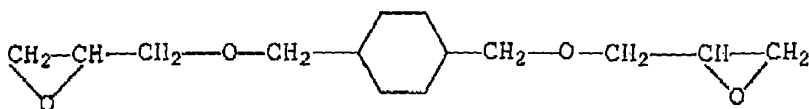




wherein n is an integer from 1 to about 18,



wherein n is as defined above,



and combinations thereof.

82. (New) A thermosetting resin composition capable of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected, or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected, reaction products of which are controllably degradable to soften and lose adhesiveness, comprising:

a curable resin component as set forth in Claim 33 in an amount in the range of from about 20% by weight to about 60% by weight, a curing agent component in an amount within the range of from about 1 to about 10% by weight, and optionally an anhydride component in an amount within the range of from about 10 to about 60% by weight, and optionally an inorganic filler component in an amount up to about 60% by weight.

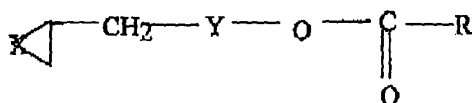
83. (New) Reaction products of the compositions in accordance with Claim 82, which are capable of controllably degrading to soften and lose their adhesiveness upon exposure to temperatures in the range of 190°C to 260°C for a period of time of 10 to 60.

84. (New) A thermosetting resin composition, said composition being substantially free of plasticizer and comprising

(a) a curable resin component comprising the combination of

(i) an epoxy resin, and

(ii) a coreactant diluent selected from C₆₋₂₈ alkyl glycidyl ethers, C₆₋₂₈ fatty acid glycidyl esters, C₆₋₂₈ alkylphenol glycidyl ethers, and those represented by the structure:



wherein X represents heteroatoms, sulfur or oxygen; Y may or may not be present, and when present represents alkylene, alkenylene, and arylene; and R represents alkyl, alkenyl, and aryl;

(b) a curing agent component; and

(c) an inorganic filler component.

85. (New) The composition of Claim 84, capable of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected, or a semiconductor chip and a circuit board to which said semiconductor chip is electrically connected.

86. (New) The composition of Claim 84, reaction products of which are controllably degradable to soften and lose adhesiveness upon exposure to temperatures higher than those

used to cure the composition.

87. (New) The composition of Claim 84, reaction products of which are controllably degradable to soften and lose adhesiveness upon exposure to temperatures in the range of 190°C to 260°C for a period of time of 10 to 60 seconds.

88. (New) The composition of Claim 84, wherein the epoxy resin component includes mono- or multi-functional aliphatic epoxies, epoxies with a cycloaliphatic ring structure or system, or epoxies with an aromatic ring structure or system, and combinations thereof.

89. (New) The composition of Claim 84, wherein the epoxy resin component includes a bisphenol A epoxy resin, a bisphenol F epoxy resin, a cycloaliphatic epoxy resin, and combinations thereof.

90. (New) The composition of Claim 84, wherein the curing agent component is a member selected from the group consisting of amine compounds, modified amine compounds, imidazole compounds, and derivatives and combinations thereof.

91. (New) The composition of Claim 84, wherein the coreactant diluent is glycidyl neodecanoate.

REMARKS

Claims 31-80 were pending, and are subject to restriction.